

Memorandum

To : Ms. Barbara Byron
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814-5512

Date : March 23, 1989

From : Department of Fish and Game

Subject : U. S. Department of Energy - Yucca Mountain Site Characterization Plan

The Department of Fish and Game has reviewed the U. S. Department of Energy's Site Characterization Plan (SCP) for the proposed Yucca Mountain, Nevada, high-level nuclear waste repository. The SCP describes the detailed studies that will be performed to determine the suitability of the site for nuclear waste disposal, and the potential environmental impacts of construction and operation of the repository. The Department is interested in the SCP because of potential impacts the waste repository could have on water supplies for California fish and wildlife populations in and near Death Valley National Monument.

The Death Valley area is one of the most arid regions in North America. Perennial water supplies in the region are available only where groundwater surfaces in springs or short reaches of streams. Many fish and wildlife species are totally dependent on the unique habitats that these isolated water supplies provide. Some of these species occur nowhere else on earth. The Department is particularly interested in the following species:

Amargosa pupfish	<u>Cyprinodon nevadensis amargosae</u>
Saratoga Springs pupfish	<u>Cyprinodon nevadensis nevadensis</u>
Salt Creek pupfish	<u>Cyprinodon nevadensis salinus</u>
Cottonball Marsh pupfish	<u>Cyprinodon salinus milleri</u>
Shoshone pupfish	<u>Cyprinodon nevadensis shoshone</u>
Amargosa vole	<u>Microtus californicus scirpensis</u>
Saratoga Springs Belostoman bug	<u>Belostoma saratogae</u>

In addition, two as yet unclassified forms of Amargosa speckled lace (Rhinichthys osculus ssp.) occur in the area, and some endemic snail species have recently been discovered in the area as well. Of these species, the Amargosa vole is both State- and Federally-listed as endangered, and the Cottonball Marsh pupfish is listed by the State as threatened. Other species may well qualify for listing in the future, when more is known about them.

Ms. Barbara Byron

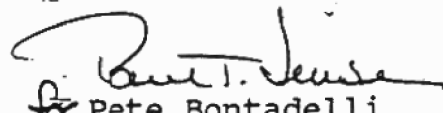
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Because these species are totally dependent on surfacing groundwater, the Department is concerned about any effects the waste repository may have on groundwater flows and groundwater supplies. The SCP indicates that the groundwater that supplies the springs and streams in California originates from recharge areas in Nevada. These groundwaters flow underground, past the Yucca Mountain disposal site, and then to California in a slow, complicated underground path that the SCP indicates is not well understood. If the construction or operation of the waste repository interrupts or depletes these groundwater flows, water supplies for the many fish and wildlife species listed above, and other plant and animal species as well, could be reduced or cut off. Because some of these species occur nowhere else on earth, this could cause the extinction of several fish and wildlife species.

The Department believes that the U. S. Department of Energy should perform the necessary studies to determine if the project will reduce or cut off groundwater flows to California. The Department notes that the SCP describes several planned studies that relate to groundwater. However, the SCP does not include a study element specifically aimed at addressing potential project effects on fish and wildlife populations dependent on groundwater supplies. The Department recommends that such a study element be added to the SCP as a separate and significant part of the overall study plan. Furthermore, the Department recommends that if this study determines that impacts on California's fish and wildlife populations could occur, the U. S. Department of Energy should implement alternative project features or modifications, or develop adequate mitigation measures, so that these impacts do not occur.

Thank you for this opportunity to comment on the SCP. If you have any questions about the Department's comments, please contact Pete Phillips at (916) 322-4891.


Pete Bontadelli
Director